

Update on the work at NIST on the determination of Newton's constant, G , using the BIPM 2013 apparatus

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A determination of Newton's constant of Gravitation performed at the International Bureau of Weights and Measures (BIPM, Sevres, France) was reported in 2013. The experiment had a number of novel features including the use of two quasi-independent methods, a torsion strip and an in-situ coordinate measurement machine. The resulting value had an accuracy of 24 ppm and was consistent with that found in previous work, which was published in 2001. However both results exceed the current CODATA value by more than 4 times its current adopted uncertainty of 47 ppm. The BIPM apparatus was transported to NIST (National Institute for Standards and Technology, Gaithersburg, USA) in Spring 2016 and has been successfully installed in a dedicated laboratory. We will report on the current status of the experiment.